AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A composite acetabular component, comprising:

a ceramic insert member having an inner surface and an outer surface; and

a biocompatible thermoplastic backing member molded onto the outer surface of the ceramic insert member when the biocompatible thermoplastic backing member is in a substantially softened state;

wherein the outer surface of the ceramic insert is provided with a micro-roughness and a plurality of radially disposed macro-grooves so as to increase the mechanical bonding between the biocompatible thermoplastic backing member and the outer surface of the ceramic liner member.

2. (Previously Presented) The composite acetabular component according to Claim 1, wherein the ceramic insert member has a substantially hemispherical shape.

3. (Currently Amended) The composite acetabular component according to Claim 1, wherein the ~~texture~~ outer surface of the ceramic insert comprises a roughened surface.

4. (Previously Presented) The composite acetabular component according to Claim 3, wherein the roughened surface has an arithmetical mean roughness in the range of about 5 to about 10 microns.

5. (Previously Presented) The composite acetabular component according to Claim 3, wherein the roughened surface has a ten-point mean roughness in the range of about 50 to about 75 microns.

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The composite acetabular component according to Claim 1, wherein the biocompatible thermoplastic backing member has a substantially hemispherical ~~shape~~ surface, and wherein the macro-grooves are longitudinally oriented with respect to the hemispherical shape.

9. (Previously Presented) The composite acetabular component according to Claim 1, wherein the biocompatible thermoplastic backing member is comprised of polyethylene.

10. (Previously Presented) The composite acetabular component according to Claim 1, wherein the biocompatible thermoplastic backing member is comprised of ultra high molecular weight polyethylene.

11. (Previously Presented) A composite acetabular component, comprising:

a ceramic insert member, the ceramic insert member having a substantially hemispherical shape, the ceramic insert member having an inner surface and an outer surface; and

a biocompatible thermoplastic backing member molded onto the outer surface of the ceramic insert member when the biocompatible thermoplastic backing member is in a substantially softened state, the biocompatible thermoplastic backing member having a substantially hemispherical shape, the biocompatible thermoplastic backing member having an inner surface and an outer surface;

wherein the outer surface of the ceramic insert is provided with a roughened texture and a plurality of macro-grooves so as to increase the mechanical bonding between the inner surface of the softened biocompatible thermoplastic backing member and the roughened texture of the outer surface of the ceramic liner member.

12. (Previously Presented) The composite acetabular component according to Claim 11, wherein the texture comprises a micro-roughened surface.

13. (Previously Presented) The composite acetabular component according to Claim 12, wherein the roughened surface has an arithmetical mean roughness in the range of about 5 to about 10 microns.

14. (Previously Presented) The composite acetabular component according to Claim 12, wherein the roughened surface has a ten-point mean roughness in the range of about 50 to about 75 microns.

15. (Cancelled)

16. (Cancelled)

17. (Previously Presented) The composite acetabular component according to Claim 11, wherein the biocompatible thermoplastic backing member is comprised of polyethylene which substantially penetrates into the textured macro-grooves.

18. (Previously Presented) The composite acetabular component according to Claim 11, wherein the biocompatible thermoplastic backing member is comprised of ultra high molecular weight polyethylene, and wherein the macro-grooves are substantially radially positioned on the outer surface of the ceramic insert.

19. (Previously Presented) An acetabulum replacement system, comprising:

an acetabulum member;

a composite acetabular component, comprising:

a ceramic insert member having an inner surface and an outer surface; and

a biocompatible thermoplastic backing member molded onto the outer surface of the ceramic insert member when the biocompatible thermoplastic backing member is in a substantially softened state;

wherein the outer surface of the ceramic insert is provided with micro-roughness and a plurality of radially positioned macro-grooves so as to increase the mechanical bonding between the biocompatible thermoplastic backing member and the outer surface of the ceramic liner member; and

a securing mechanism for securing the acetabulum member to the composite acetabular component.

20. (Previously Presented) A hip replacement system, comprising:

an acetabulum member;

a composite acetabular component, comprising:

a ceramic insert member having an inner surface and an outer surface; and

a biocompatible thermoplastic backing member molded onto the outer surface of the ceramic insert member when the biocompatible thermoplastic backing member is in a substantially softened state;

wherein the outer surface of the ceramic insert is provided with micro-roughness and a plurality of longitudinally oriented macro-grooves so as to increase the mechanical bonding between the biocompatible thermoplastic backing member and the outer surface of the ceramic liner member;

a femoral component having a ball-shaped portion adapted to be received in the composite acetabular component; and

a securing mechanism for securing the acetabulum member to the composite acetabular component.

21. (Currently Amended) A method of making a composite acetabular component, comprising:

providing a ceramic insert member having an inner surface and an outer surface;

providing a biocompatible thermoplastic material;

imparting micro-roughness and a plurality of radially disposed and longitudinally oriented macro-grooves to the outer surface of the ceramic insert member;

softening the biocompatible thermoplastic material; and

contacting the ~~textured~~ outer surface of the ceramic insert member with the softened biocompatible thermoplastic material for a sufficient period of time to form a biocompatible thermoplastic backing member onto the ~~textured~~ outer surface of the ceramic insert member;

wherein the ~~texture~~ micro-roughness and a plurality of radially disposed and longitudinally oriented macro-grooves of the outer surface of the ceramic insert member increases the mechanical bonding between the biocompatible thermoplastic backing member and the outer surface of the ceramic liner member.

22. (Previously Presented) The method according to Claim 21, wherein the ceramic insert member has a substantially hemispherical shape.

23. (Cancelled)

24. (Currently Amended) The method according to Claim ~~23~~ 21, wherein the ~~roughened~~ micro-roughness of the outer surface has an arithmetical mean roughness in the range of about 5 to about 10 microns.

25. (Previously Presented) The method according to Claim ~~23~~, wherein the ~~roughened~~ micro-roughness of the outer surface has a ten-point mean roughness in the range of about 50 to about 75 microns.

26. (Cancelled)

27. (Cancelled)

28. (Previously Presented) The method according to Claim 21, wherein the biocompatible thermoplastic backing member has a substantially hemispherical shape.

29. (Previously Presented) The method according to Claim 21, wherein the biocompatible thermoplastic backing member is comprised of polyethylene.

30. (Previously Presented) The method according to Claim ~~19~~ 21, wherein the biocompatible thermoplastic backing member is comprised of ultra high molecular weight polyethylene.